Abstract

Nonvolatile semiconductor storage element and associated production and control method

The invention relates to a nonvolatile semiconductor storage element and an associated production and control method, comprising a semiconductor substrate (1) in which a source region (S), a drain region (D) and an intermediate channel region are formed. On a first part section (I) of the channel region, a control layer (5) is formed and insulated from the channel region by a first insulating layer (2A) whereas respective charge storage layers (3A and 3B) are formed in a second part section (IIA, IIB) of the channel region and are insulated from the channel region by a second insulating layer (2BA and 2BB). On the charge storage layer (3A, 3B), a programming layer (6A, 6B) is formed and insulated from that by a third insulating layer (4A, 4B) and is electrically connected to a respective source region (S) and drain region (D) via a respective interconnect layer (6AA, 6BB).

Figure 5